Data Sheet (Cat.No.TMPY-01486)

TargetMol

EphA4 Protein, Human, Recombinant (His)

General Information

Synonyms: EPH receptor A4;SEK;HEK8;TYRO1

Protein Construction: Val20-Thr547

Species: Human

Expression Host: HEK293 Cells

Accession: P54764-1

Molecular Weight: 59.5 kDa (predicted); 60-70 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it.

Purity: > 96 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from 0.22μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

EPH receptor A4 (ephrin type-A receptor 4), also known as EphA4, belongs to the ephrin receptor subfamily of the protein-tyrosine kinase family which 16 known receptors (14 found in mammals) are involved: EPHA1, EPHA2, EPHA3, EPHA4, EPHA5, EPHA6, EPHA7, EPHA8, EPHA9, EPHA10, EPHB1, EPHB2, EPHB3, EPHB4, EPHB5, EPHB6. The Eph family of receptor tyrosine kinases (comprising EphA and EphB receptors) has been implicated in synapse formation and the regulation of synaptic function and plasticity6. EphA4 is enriched on dendritic spines of pyramidal neurons in the adult mouse hippocampus, and ephrin-A3 is localized on astrocytic processes that

envelop spines. Eph receptor–mediated signaling, which is triggered by ephrins7, probably modifies the properties of synapses during synaptic activation and remodeling. Ephrin receptors are components of cell signalling pathways involved in animal growth and development, forming the largest sub-family of receptor tyrosine kinases (RTKs). The extracellular domain of an EphA4 interacts with ephrin ligands, which may be tethered to neighbouring cells. Ligand-mediated activation of Ephs induces various important downstream effects and Eph receptors have been studied for their potential roles in the development of cancer.

Reference

Murai KK,et al.(2003) Control of hippocampal dendritic spine morphology through ephrin-A3/EphA4 signaling. Nat Neurosci. 6(2): 153-60.

Kullander K,et al.(2003) Role of EphA4 and EphrinB3 in local neuronal circuits that control walking. Science. 299 (5614): 1889-92.

Smith A,et al.(1997) The EphA4 and EphB1 receptor tyrosine kinases and ephrin-B2 ligand regulate targeted migration of branchial neural crest cells. Curr Biol. 7(8): 561-70.